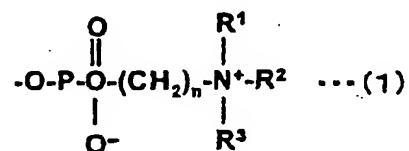


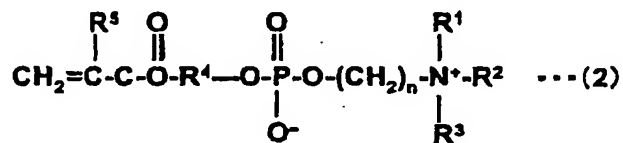
WHAT IS CLAIMED IS:

1. A vessel for embryoid formation for use in floating culture of embryonic stem cells to form embryoid bodies, comprising a coating layer formed from a compound having a phosphorylcholine-like group represented by the formula (1), on a vessel surface defining a region for floating culture of embryonic stem cells:



- wherein R^1 , R^2 , and R^3 are the same or different groups, and each stands for a hydrogen atom, an alkyl or hydroxyalkyl group having 1 to 6 carbon atoms; and n is an integer of 1 to 4.

2. The vessel for embryoid formation of claim 1, wherein said compound having a phosphorylcholine-like group comprises at least one of a homopolymer of monomer (M) represented by the formula (2) having a phosphorylcholine-like group and a copolymer of monomer (M) and another monomer:



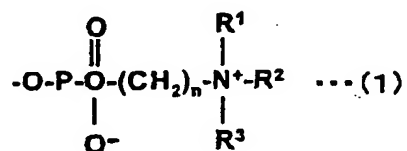
- wherein R^1 , R^2 , and R^3 are the same or different groups, and each stands for a hydrogen atom, an alkyl or hydroxyalkyl group having 1 to 6 carbon atoms, R^4 stands for an alkyl

group having 1 to 6 carbon atoms, R⁵ stands for a hydrogen atom or a methyl group; and n is an integer of 1 to 4.

3. The vessel for embryoid formation of claim 1, wherein
5 a ratio (P/C) of the amount of phosphorus element P to the amount of carbon element C as measured by X-ray photoelectron spectroscopy on the vessel surface having said coating layer formed thereon is 0.002 to 0.3.

10 4. A method for forming embryoid bodies comprising the steps of:

(A) providing a vessel for embryoid formation having a coating layer formed from a compound having a phosphorylcholine-like group represented by the formula
15 (1), on a vessel surface defining a region for floating culture of embryonic stem cells:

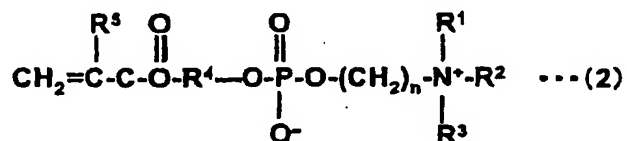


wherein R¹, R², and R³ are the same or different groups, and each stands for a hydrogen atom, an alkyl or hydroxyalkyl
20 group having 1 to 6 carbon atoms; and n is an integer of 1 to 4; and

(B) floating culturing embryonic stem cells in said vessel for embryoid formation to form embryoid bodies.

25 5. The method of claim 4, wherein said compound having

a phosphorylcholine-like group comprises at least one of a homopolymer of monomer (M) represented by the formula (2) having a phosphorylcholine-like group and a copolymer of monomer (M) and another monomer:



5

wherein R^1 , R^2 , and R^3 are the same or different groups, and each stands for a hydrogen atom, an alkyl or hydroxyalkyl group having 1 to 6 carbon atoms, R^4 stands for an alkyl group having 1 to 6 carbon atoms, R^5 stands for a hydrogen atom or a methyl group; and n is an integer of 1 to 4.

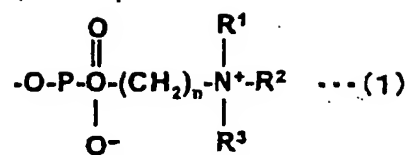
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6. The method of claim 4, wherein a ratio (P/C) of the amount of phosphorus element P to the amount of carbon element C as measured by X-ray photoelectron spectroscopy on the vessel surface having said coating layer formed thereon is 0.002 to 0.3.

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7. Use of a vessel for embryoid formation for use in floating culture of embryonic stem cells to form embryoid bodies, said vessel comprising a coating layer formed from a compound having a phosphorylcholine-like group represented by the formula (1), on a vessel surface defining a region for floating culture of embryonic stem cells:

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wherein R^1 , R^2 , and R^3 are the same or different groups, and each stands for a hydrogen atom, an alkyl or hydroxyalkyl group having 1 to 6 carbon atoms; and n is an integer of

5 1 to 4.